

HE-A1-1

For Information

DATE: April 20, 2010

REPORT TITLE: **2010 ACTIONS TO IMPROVE AIR QUALITY**

FROM: Janette Smith, Commissioner of Health Services
David L. Mowat, MBChB, MPH, FRCPC, Medical Officer of Health
Janet Menard, Commissioner of Human Services
Dan Labrecque, Commissioner of Public Works
R. Kent Gillespie, Commissioner of Employee and Business Services
Norma Trim, Chief Financial Officer and Commissioner of Corporate Services

OBJECTIVE

This report is to inform Regional Council of the Region's participation in the 2010 Clean Air and Climate Change Summit. The Region's 2010 Actions to Improve Air Quality are outlined in Appendix I, and updates on the Region's 2009 Actions to Improve Air Quality are outlined in Appendix II.

REPORT HIGHLIGHTS

- All Councillors are invited to attend the 2010 Clean Air and Climate Change Summit, which will be held on June 2, 2010 at Toronto City Hall.
- The event will include the signing of the "Toronto and Region 2010 Inter-governmental Declaration on Clean Air". The declaration outlines actions to be taken to improve air quality and is signed by participating municipal and regional governments, the Province of Ontario and the Government of Canada.
- The Region of Peel has been a signatory to the Declaration since 2001.
- The 2010 Actions to Improve Air Quality are estimated to reduce greenhouse gases by just under two tonnes.

DISCUSSION

1. Background

The Region's participation in the Greater Toronto Area Clean Air Council presents an opportunity to collaborate with other municipalities in the GTA, as well as other orders of government, on actions to improve local air quality. Improving air quality is a priority for the Region and this can be seen in the Region's Strategic Plan, which commits the Region to implementing strategies to improve air quality.

The Greater Toronto Area Clean Air Council was established in 2001. The GTA Clean Air Council promotes the reduction of air pollution and works to increase awareness of air quality issues in the Greater Toronto Area through the collective efforts of all levels of government. Membership in the Council includes the federal and provincial governments

April 20, 2010

2010 ACTIONS TO IMPROVE AIR QUALITY

and participating GTA municipalities, including the Region of Peel, the Cities of Mississauga and Brampton and the Town of Caledon. The Clean Air Partnership, a non-profit registered charity, provides secretariat services to the Council.

2. 2010 Clean Air and Climate Change Summit – From Words to Action

From 2000 to 2009, the Clean Air Partnership and GTA Clean Air Council have held annual Smog Summits in June. A key outcome of the Smog Summit was the "Toronto and Region Inter-governmental Declaration on Clean Air". The Declaration, signed at the Summit by the participating municipal and regional governments, the Province of Ontario and the Government of Canada, outlines joint actions to be taken to improve air quality.

2009 marked the final Smog Summit. In 2010, a new format has been developed to continue to highlight air quality commitments, initiatives and progress in the GTA. The new event is called the Clean Air and Climate Change Summit. The Summit will take place on June 2, 2010 at Toronto City Hall in the Council Chambers.

The event will begin with a keynote presentation. Recognition certificates will then be presented to political representatives on behalf of their member jurisdictions. Certificates will be given to member jurisdictions who have achieved the GTA Clean Air Council declaration targets including, but not limited to the following areas:

- Development of action plans to reduce energy use and mitigate air pollution and climate change;
- Development of Community Bicycle/Pedestrian Plans aimed at increasing a modal shift from single occupancy vehicle use to active transportation;
- Corporate/community green development and green roof policies and practices;
- Green Energy Purchasing and Production Actions, and
- Conversion of traffic signals to light emitting diode (LED) technology.

The 2010 Declaration on Clean Air will then be outlined and political representatives from each member jurisdiction will sign the document. Following the Summit, lunch will be held to provide an opportunity to network with peers from across the GTA.

3. Region of Peel Air Quality Initiatives

The Region's 2010 actions to improve air quality are found in Appendix I. These actions form the work plan of the Regional Air Quality Working Group. The media will be informed of the Region's 2010 Air Quality Initiatives through a news release which will be issued at the Clean Air and Climate Change Summit.

A progress report on Peel's 2009 initiatives is included in Appendix II. The Region's air quality activities result in emission reductions and cost savings. Emission reduction results for all of the activities are not available, as calculators designed to quantify corporate activities are not as readily available as are web-based calculators that quantify the emissions reductions resulting from actions that can be taken by individuals.

FINANCIAL IMPLICATIONS

The GTA Clean Air Council is funded primarily by federal, provincial, and Toronto Atmospheric Fund grants. Financial contributions are also made by regional and municipal members based on their population size. The Region of Peel's annual contribution is \$10,250 and is included in

April 20, 2010

2010 ACTIONS TO IMPROVE AIR QUALITY

the 2010 Regional Budget (cost centre HE15001). The air quality improvement initiatives outlined in Appendix I have been included in the 2010 Regional budget and the Peel-specific initiatives are already in departmental work plans. Completion of initiatives commenced in 2010, but not completed this year, will be subject to the 2011 budget review.

CONCLUSION

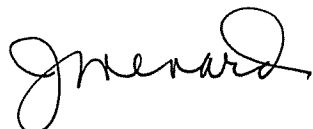
The GTA Clean Air Council and the annual Summits have significantly contributed to improving air quality in Southern Ontario. The Region of Peel, along with other participants, continue to work on improving air quality.



Janette Smith
Commissioner of Health Services



David L. Mowat, MBChB, MPH, FRCPC
Medical Officer of Health



Janet Menard
Commissioner of Human Services



Dan Labrecque, Commissioner of Public Works

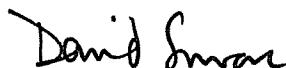


R. Kent Gillespie
Commissioner of Employee and Business Services



Norma Trim, Chief Financial Officer and
Commissioner of Corporate Services

Approved for Submission:



D. Szwarc, Chief Administrative Officer

For further information regarding this report, please contact Paul Callanan, Director, Environmental Health at extension 2802 or via email at paul.callanan@peelregion.ca

*Authored By: Kiran Ghai, Research and Policy Analyst, Environmental Health
Mark Pajot, Research and Policy Analyst, Environmental Health*

c. Legislative Services
Manager, Financial Support Unit (FSU)



2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
Leadership in Energy and Environmental Design (LEED) Standard for the New Accessible Transportation Facility and Copper Road Yard Expansion	A new two storey office building and expansion to the fleet service garage and indoor parking will be constructed to LEED standards.	Public Works (Operations Support and Transportation)	Sustainable standards will be applied to the design and construction of all heating and cooling systems, building finishes and furnishings.
Hybrid Vehicle Purchases	Seven hybrid SUVs and one hybrid compact car will be added to the fleet in 2010, bringing the total number of hybrid vehicles in the Region to fifty-four.	Public Works (Operations Support)	The use of hybrid vehicles in 2010 will reduce the region's annual CO ₂ emissions by approximately 87,000 kg.
Expansion of Biodiesel Program	The Waste Operations Section will continue to convert waste vegetable oil collected through the Household Hazardous Waste depots at the Community Recycling Centres. In 2010, the program will be expanded and the biodiesel created will be used in a TransHelp bus, a roll-off tractor trailer and a CAT loader at the Battleford Community Recycling Centre.	Public Works (Waste Management)	The use of biodiesel in Regional vehicles diesel engines will reduce unburned hydrocarbons, carbon monoxide and particulate matter compared with emissions from diesel fuel. In addition, the exhaust emissions of sulfur oxides and sulfates (major components of acid rain) from biodiesel are essentially eliminated compared to diesel.
Front-End Recycling Program for Schools	The front-end recycling collection program is scheduled for roll-out to schools in 2010.	Public Works (Waste Management)	This program, which is an extension of the Multi-Residential Front-End Recycling Program initiated in February 2009, could lead to additional collection efficiencies resulting in fewer trucks and reduced emissions.

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome
Processed Bottom Ash Market	A portion of the processed bottom ash from the Algonquin Power Energy from Waste Facility is scheduled to be marketed locally and used to manufacture a product.	Public Works (Waste Management)	This initiative (local market/shipment) will result in fewer long haul vehicle emissions, as a portion of the bottom ash will not be shipped to a remote landfill to be used as daily cover material.
Wood Waste Feasibility Study – Phase Two	In phase two, the Region will seek to engage various provincial ministries and agencies and advocate for the biomass to be considered as an approved feedstock under the Green Energy Act.	Public Works (Waste Management) Employee and Business Services (Real Property Asset Management, Energy Projects)	Pending provincial acceptance, Case 1 in Plan A (revenue generating plan) would potentially reduce GHG by 14,000 tonnes per year from 100,000 tonnes of biomass. Case 2 in Plan A would potentially reduce GHG by 10,000 tonnes per year from 70,000 tonnes of biomass. In addition, further GHG reductions could be realized by the offset of emissions through connecting local commercial facilities to a district heating system or the offset of emissions through existing operations and collection.
Solar Feed-In Tariff (FIT) Program Implementation	Implement a 30kW Photovoltaic Project at Vera Davis Long Term Care Centre.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Estimated FIT revenues of approximately \$21,000/yr for twenty years; greenhouse gas reductions estimated at 9,000 kg/yr.
	Implement a 10kW Photovoltaic Project at Tall Pines Long Term Care Centre.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Estimated FIT revenues of approximately \$8,000/yr for 20 years; greenhouse gas reductions estimated at 3,000 kg/yr.
	Implement a 10kW Photovoltaic Project at Peel Police 11 Division.	Employee and Business Services	Estimated FIT revenues of approximately \$8,000/yr for twenty years; greenhouse gas

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
		(Real Property Asset Management, Energy Projects)	reductions estimated at 3,000 kg/yr.
Solar Hot Water Building Retrofits	Implement a solar domestic hot water project (95 m ² solar thermal collector system) at Sheridan Villa Long Term Care Centre.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Annual energy savings of 7,000 m ³ natural gas; cost savings of approximately \$2,500/yr at today's natural gas rates; greenhouse gas reductions estimated at 12,100kg/yr.
	Implement a solar domestic hot water project (8.4 m ² solar thermal collector system) at Peel Police 11 Division.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Annual energy savings of 300 m ³ natural gas; cost savings of approximately \$225/yr at today's natural gas rates; greenhouse gas reductions estimated at 1,100kg/yr.
	Implement a solar domestic hot water project (39.2m ² solar thermal collector system) at Peel Police Training Facility.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Annual energy savings of 3,000m ³ natural gas; cost savings of approximately \$1,050/yr at today's natural gas rates; greenhouse gas reductions estimated at 5,200 kg/yr.
Landfill Solar Feasibility Study	Initiate a solar feasibility study to determine if renewable technologies can be used by the Region to reduce its dependence on fossil fuel-derived power, and to facilitate investments in these renewable technologies to promote clean air in accordance with the Regional Clean Air Plan.	Employee and Business Services (Real Property Asset Management, Energy Projects)	Dependent on results of the feasibility study. The construction of renewable power generating facilities would reduce greenhouse gas emissions for the Region.
Building Automation System (BAS) Installation	Installation of a new BAS at 2 Copper Road Public Works Yard. This is to be carried out as a part of the	Employee and Business Services	The feasibility results show an estimated cost savings from the installation of a new BAS with lighting control for the existing 2

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome
	new Trans Help facilities project.	(Real Property Asset Management, Energy Projects)	Copper Road facility at \$233,508 and a total greenhouse gas reduction of 2,113,896.03 kg of CO ₂ over a ten year period.
	Installation of a new BAS at Gardenview Court and Derrybrae Place (Peel Living) high-rise apartment buildings.	Employee and Business Services (Real Property Asset Management, Energy Projects)	The feasibility results show an annual estimated energy cost saving from the installation of new BAS at these sites as \$63,216 and a greenhouse gas reduction of 135,198.45 kg of CO ₂ per year.
	Installation of a BAS at the five Community Recycling Centers and Victoria Yard.	Employee and Business Services (Real Property Asset Management, Energy Projects)	The feasibility results shows a total estimated energy cost saving from the installation of new BAS at these sites would be \$556,246 and a total greenhouse gas reduction of 4,556,307.24 kg of CO ₂ over a ten year period.
100 Building Energy Audit	Quantify and profile all energy consumption by regional operations.	Employee and Business Services (Real Property Asset Management, Energy Projects)	The results of this project will be used to set energy conservation targets for the Region, as well as determine recommended energy retrofits or measures for improving processes, building envelopes, equipment and HVAC systems with the aim of reducing energy costs and in turn greenhouse gas emissions.
Region of Peel Baseline Study – Quantifying Greenhouse Gas Emissions	Quantify the regions greenhouse gas emissions to determine the baseline.	Employee and Business Services (Real Property Asset Management, Energy Projects)	The results of this project will be used to set greenhouse gas emission targets and identify projects to reduce greenhouse gas emissions.
Update the Region of Peel's Energy Management Plan	Update the Energy Management Plan approved by senior staff and Peel Region Council, March 2008. Updates to include:	Employee and Business Services (Real Property Asset Management,	The Region of Peel Energy Management Plan sets the framework for energy management throughout the corporation, outlining the strategic plan for mitigating against volatile energy prices and

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
	establishing a consensus, energy conservation targets, enhanced energy management strategies, and detailed energy management processes.	Energy Projects and Energy Services)	unstable energy supplies; advancing energy conservation; enhancing environmental social and financial performance in a sustainable manner. Corporate-wide annual energy consumption and greenhouse gas emission reporting will be a sustainability measurement tool.
Region of Peel Green Building Standards for Peel Paramedic Program	<p>Green building standards continue to be incorporated into the new Peel Paramedic reporting and satellite station construction projects.</p> <p>Green building measures will ensure enhanced energy conservation and environmental performance throughout the Paramedic facility portfolio.</p> <p>These measures include upgraded building envelope, ventilation air heat recovery, utilizing water source hydronic heating and air-conditioning systems all integrated through a building management control system.</p>	<p>Health Services (Paramedic Services)</p> <p>Employee and Business Services</p> <p>(Real Property Asset Management, Asset Renewal and Construction</p> <p>Real Property Asset Management, Energy Projects)</p>	<p>Peel Paramedic R1 Reporting Station is currently under construction and expected to achieve:</p> <p>75 tonne/year reduction in annual greenhouse gas emissions, and \$20,000 savings in annual energy operating costs.</p> <p>Regional green building standards introduce the current best practice approach for conserving energy throughout the Peel Paramedic portfolio of new buildings enhancing environmental performance.</p> <p>Energy conservation efforts will be measured, monitored and reported.</p>
Region of Peel Green Building Standards for Peel Heritage Complex Renovation Project	Green building standards have been incorporated into the Peel Heritage Complex renovation project. The standards ensure enhanced energy and environmental performance while meeting the specialized indoor environment temperature and humidity requirements set out by this unique client group.	<p>Peel Heritage</p> <p>Employee and Business Services</p> <p>(Real Property Asset Management, Asset Renewal and Construction</p> <p>Real Property</p>	<p>Peel Heritage Complex renovation project incorporates green building measures to reduce reliance on fossil fuels and conserve energy.</p> <p>Highlights include: geothermal heat pump system; ventilation heat recovery and demand control; hydronic water based heating system; LED lighting; and building management system.</p>

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
		Asset Management, Energy Projects)	Energy conservation measures will be measured, monitored and reported.
Energy Retrofit of South Peel Water and Wastewater Treatment Plants and Pumping Stations	Energy Projects and Water and Wastewater division Capital Project Managers are jointly implementing energy retrofit measures in alignment with recommendations identified in the 54 Building Energy Audit Report.	Public Works (Water and Wastewater) Employee and Business Services (Real Property Asset Management, Energy Projects)	Energy performance of South Peel pumping stations and water and wastewater treatment plants will be measured, monitored and reported.
Industrial, Commercial and, Institutional (ICI) Outdoor Water Audit	Through the knowledge gained from the pilot program, a regular program will be opened up to the public.	Public Works (Operations Support)	Potential outdoor water savings will be identified at participating ICI facilities through technology and schedule changes to irrigation systems. The reduction in water consumption reduces associated energy requirements and greenhouse gas emissions related to water treatment and distribution processes.
Residential Outdoor Water Efficiency Program	A marketing plan will be developed for the program.	Environment, Transportation and Planning Services (Operations Support)	This program will contribute to Water Smart Peel's goal of a ten per cent reduction in residential water consumption by 2015. Monitoring of the Clarkson Community Pilot Area, will take place, together with implementation of Fusion Landscaping marketing campaign.
Demonstration Gardens	New demonstration gardens will be installed in partnership with garden centres in the Region of Peel.	Environment, Transportation and Planning Services (Operations Support)	This initiative aims to reduce outdoor water use, and provide residents with examples of water efficient garden standards. The reduction in water consumption reduces associated

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
			energy requirements and greenhouse gas emissions related to water and wastewater treatment and distribution processes.
Residential Toilet Replacement Program	<p>The Region of Peel offers rebates through the Residential Toilet Replacement Program. In 2010, staff will be promoting the program through on-site toilet replacement events.</p> <p>The rebate program provides:</p> <p>\$60 rebates to residents or property owners who replace inefficient toilets with new <i>Peel-Approved</i> water efficient 6L models.</p> <p>\$100 rebates are available for high efficiency toilets that flush with 4.8 litres or less.</p>	<p>Environment, Transportation and Planning Services</p> <p>(Operations Support)</p>	<p>Through the increased community awareness of this program, as well as four instant rebate events planned for the current year, the popularity of this program is expected to remain stable for 2010.</p> <p>Based on 2009 data and key driving factors, it is projected that the Region will process approximately 25,000 rebates in 2010.</p>
Residential Humidifier Rebate Program	<p>The Region of Peel along with the City of Guelph and York Region is initiating a humidifier rebate pilot program to educate homeowners about the amount of water wasted by furnace-mounted humidifiers.</p> <p>The program will provide incentives for residents who choose water efficient furnace-mounted humidifiers when installing or replacing whole home humidification systems.</p>	<p>Public Works</p> <p>(Operations Support)</p>	<p>Water efficient furnace mounted humidifiers are expected to save up to 200L of water per day compared to their inefficient counterparts.</p> <p>The reduction in water consumption reduces associated energy requirements and greenhouse gas emissions related to water and wastewater treatment and distribution processes.</p>
Alternative Ride Vehicles	<p>Three vehicles will be added to the pool of alternative ride vehicles</p>	<p>Public Works</p> <p>(Operations Support)</p>	<p>To reduce CO₂ emissions and promote carpooling during business travel.</p>

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>
	available to Public Works employees for carpooling for business travel.	Support)	
<i>Implementation of an Employee Transit Pass Subsidy Pilot Project</i>	<p>The Region will work with Smart Commute Brampton-Caledon and Brampton Transit to develop and launch an employee transit pass subsidy program.</p> <p>Through the program, employees will receive a discount up to 50% when they purchase a monthly transit pass. Brampton Transit and the employer will subsidize the transit pass.</p> <p>The Region of Peel will be the first employer in Brampton to initiate this program.</p>	<p>Public Works (Transportation, Transportation Planning)</p>	<p>It is estimated that this pilot project could reduce 954,200 kg of greenhouse gas emissions.</p>

2010 ACTIONS TO IMPROVE AIR QUALITY

Status Updates on 2009 Actions to Improve Air Quality

Commitment	Activity	Responsibility	Target/Outcome	Status Update
Set Energy Performance Standards for Buildings and Capital Equipment	Collect and harmonize all Regional standards relating to energy for buildings and large energy-consuming equipment. Establish minimum performance standards.	Employee and Business Services (Real Property Asset Management, Energy Projects)	All standards to be collected and harmonized and a draft of minimum standards established by the end of 2009.	Development of Regional green building standards is supported by undertaking Life Cycle Cost (LCC) based studies on buildings and capital equipment, which started in 2009 and is on-going. Target completion has moved to the middle of 2011 as additional LCC based studies are identified.
Solar Hot Water Building Retrofits	Install two solar thermal systems by the end of 2009.	Employee and Business Services (Real Property Asset Management - Energy Projects)	Displace a portion of the natural gas used for water heating to renewable energy at two Police facilities through the installation of solar thermal systems.	Three solar thermal systems were installed in 2009 as part of the Group Homes Energy Retrofit Project.
Reduce Building Energy Consumption Through Building Automation	Install new and upgraded building automation systems in Regional buildings.	Employee and Business Services (Real Property Asset Management - Energy Projects)	New or upgraded building automation systems to be installed in five Regional buildings by the end of 2009 to reduce energy consumption.	A building automation system was installed in Wolfedale Road Yard.
Building Energy Audits	Carry out comprehensive energy audits in all Regionally owned buildings that have not been audited to date.	Employee and Business Services (Real Property Asset Management - Energy Projects)	Start the audit work in 2009 with the objective of completion by the end of 2010.	Project initiation, chartering and approval and project planning was completed in 2009. Procurement began in 2009 and the actual audit will begin in 2010.

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
Building Energy Retrofits	Complete energy retrofit work on fifty-four Regional buildings that were energy audited in 2007 to 2008.	Employee and Business Services (Real Property Asset Management - Energy Projects)	Start the retrofit work in 2009 with the objective of completion by the end of 2010 to reduce energy use.	Energy Projects has begun engaging the Capital Project Managers from Water Treatment, Wastewater Treatment and Water Distribution in order to carry out the various recommendations as laid out in the Energy Audit report either by merging it with the various capital projects or carrying it out separately as applicable.
Reduce Energy Consumption in the Pumping of Water	Implement a control system to optimize energy use in the pumping of water throughout the Region.	Employee and Business Services (Real Property Asset Management - Energy Projects)	Undertake commissioning of the new control system in 2009.	Target Completion moved to early 2011.
Industrial, Commercial and, Institutional (ICI) Outdoor Water Audit Pilot Study	Five to ten facilities with irrigation systems will participate in a pilot study to identify the potential for outdoor water savings, appropriate technology and incentives.	Public Works (Operations Support)	Potential outdoor water savings will be identified at selected ICI facilities through technology changes to irrigation systems. The reduction in water consumption reduces associated energy requirements and greenhouse gas emissions related to water and wastewater treatment and distribution processes.	Seven facilities are entering into phase 2 of the pilot program. This phase includes the implementation of recommendations and subsequent flow monitoring to identify actual water savings.
Residential Outdoor Water Efficiency Program	Potential outdoor water savings will be identified based on current residential market	Public Works (Operations Support)	This program will contribute to Water Smart Peel's goal of a ten per cent reduction in residential water	Benchmark data was collected from approximately 2,000 homes and is currently being

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>	<i>Status Update</i>
	research.		consumption by 2015. Benchmark monitoring of the Clarkson Community Pilot Area, will take place, followed by full scale program implementation and follow up monitoring and evaluation.	analyzed.
<i>Demonstration Gardens and Front Yard Landscaping</i>	Three new demonstration gardens will be installed in partnership with garden centres in the Region of Peel.	Public Works (Operations Support)	This initiative aims to reduce outdoor water use, and provide residents with examples of water efficient garden standards. The reduction in water consumption reduces associated energy requirements and GHG emissions related to water and wastewater treatment and distribution processes.	Three new gardens were installed through partnerships with Sheridan Nurseries and Humber Nurseries.
<i>Residential Toilet Replacement Program</i>	The Region of Peel offers rebates through the Residential Toilet Replacement Program. In 2009, staff will be promoting the program through on-site toilet replacement events. The rebate program provides: \$60 rebates to residents or property owners who replace inefficient toilets with new <i>Peel-Approved</i> water efficient 6L models. \$100 rebates are	Public Works (Operations Support)	Through the increased community awareness of this program, as well as three instant rebate events planned for the current year with big box retailers, the popularity of this program is expected to remain stable for 2009. Based on 2008 data and key driving factors, it is projected that the Region will process approximately 21,000 rebates in 2009.	In 2009, 27,682 total rebates were issued. There were 24,881 single family rebates, 2,801 multi family rebates for 9,803 6 litre toilets and 7,879 high efficiency toilets. There was a 43.13% increase from 2008 which may be explained by aggressive pricing by retailers, in combination with the rebate. Also increased home renovations as a result of the home renovation tax credit increased the participation rate of

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
	available for high efficiency toilets that flush with 4.8 litres or less.			the program.
Restaurant Spray Valve Replacement Program	<p>In an effort to reduce water consumption and lower restaurant operating costs, the Region of Peel provides restaurant owners with replacement pre-rinse spray valves free of charge.</p> <p>In 2007, this program was contracted out to Enbridge. The Region is now managing the program in house.</p>	Public Works (Operations Support)	<p>Spray valves account for approximately 30% of a restaurant's water use. By installing a water efficient spray valve, a restaurant can save up to 110,000 litres of water per year for just one hour of usage per day. This can translate into a savings of approximately \$1,700 on water and energy bills over five years.</p> <p>In 2009, a total of 550 valves are expected to be installed in food service facilities across Peel. This is expected to result in a water savings of 165,000 L/day.</p>	<p>In 2009, a total 496 valves and 1,075 aerators were installed in food service facilities across Peel.</p> <p>The water savings of this initiative are 0.614 ML/day.</p>
2009 Peel Children's Water Festival	<p>The theme for the 14th annual Peel Children's Water Festival (PCWF) is climate change and its impacts on the hydrological cycle.</p> <p>Five new activities based on this theme will be incorporated into the festival curriculum.</p> <p>The Festival will be held at Heart Lake Conservation Area in the City of Brampton from May 21st to May 27th, 2009 (excluding Sunday May 24th).</p>	Public Works (Operations Support)	<p>To educate children and the community on the connection between water, air quality and climate change.</p> <p>In 2008, the six day festival experienced record numbers with more than 10,986 students and adults visiting the event. The Family Fun Day attracted approximately 4,000 residents. Similar target numbers are expected for 2009.</p>	<p>More than 9,000 people participated in the 2009 Children's Water Festival including approximately 3,600 elementary students, 700 teachers and parent chaperones, 1,100 volunteers and 3,600 people during the Family Fun Day.</p> <p>The theme of the event was climate change "When it Rains it Pours" with most activities focusing on conservation and environmental stewardship.</p>

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
Hybrid Vehicle Purchases	Nine hybrid SUVs will be added to the Fleet bringing the total number of hybrid vehicles in the Region to thirty-four.	Public Works (Operations Support)	This initiative reduces CO ₂ emissions and in 2009, the Region will have reduced approximately 72,000 kg in CO ₂ emissions.	Total CO ₂ savings for 2009 were 85,392 kg.
Alternative Ride Vehicles	Four vehicles in Public Works will be dedicated to employees on business travel.	Public Works (Operations Support)	To reduce CO ₂ emissions and promote carpooling during business travel.	Two alternative ride vehicles at Public Works facilities are dedicated to business travel. One of the cars was used over one hundred times for approximately 6000 km in 2009. This initiative reduced the number of single occupant vehicle trips and in turn greenhouse gas emissions by encouraging carpooling for business activities.
Multi-Residential Front-End Recycling	Front-end recycling collection at multi-residential locations commenced in early February 2009. This program is being rolled out throughout the year with more locations being converted from cart-based collection to front-end recycling collection. By the end of 2009, approximately 50 per cent of the existing multi-	Public Works (Waste Management)	Fewer vehicles will be required to service greater volumes (tonnage) of recyclable material from these locations. The full benefit of the program will not be known until the program is completely rolled-out and the routes are properly built up. However, it is anticipated that this initiative will result in increased productivity, fewer vehicles, less idling, and the associated reduction in vehicle emissions.	The Multi-Residential Front End Recycling Project is complete. The Region is experiencing higher volumes of recycling, as well as fewer vehicles used, less idling and the associated reduction in vehicle emissions.

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
	residential locations will be receiving front-end recycling collection.			
New Landfill Capacity	The Region of Peel began sending waste to a closer remote landfill site in mid-December 2008. All of Region's waste will be destined for this site in the foreseeable future.	Public Works (Waste Management)	The round-trip distance to the new landfill is approximately 185 km shorter than to the previous landfill used by the Region. This amounts to a 29 per cent reduction in the round-trip haulage per vehicle of waste, with the associated reduction in vehicle emissions.	In 2009, all waste destined for a landfill continued to go to a "closer" remote landfill. Due to its proximity, the associated reduction in vehicle emissions is being realized.
Waste Wood Feasibility Study	A waste wood feasibility study is being initiated to determine the viability of using biomass for power production, district heating and/or district cooling.	Public Works (Waste Management) Employee and Business Services (Real Property Asset Management - Energy Projects)	This initiative is expected to divert waste wood from the Community Recycling Centre's and overs from the Regional composting facilities. Overs are larger pieces of yard waste that are not fine enough to be sold as compost. They are typically returned to the process for a second round of composting. The feasibility study will review current technologies suitable for a combined heat and power or heating and/or cooling system. The feasibility study will also investigate the environmental and financial implications of using biomass in Peel Region. The power produced could be used to operate the Peel Integrated Waste Management Facility (PIWMF) and/or be sold	Phase One of the feasibility study is complete and needs to be evaluated. Two plans have been identified as feasible. Case 1 in Plan A (revenue generating plan) will generate 8 MegaWatt electricity (MWe), 14 Mega Watt thermal (MWt), and reduce GHG by 14,000 tonnes per year from 100,000 tonnes of biomass. Case 2 in Plan A will generate 6 MWe, 10 MWt, and reduce GHG by 10,000 tonnes per year from 70,000 tonnes of biomass. Potential payback for Case 1 and Case 2 does not include any potential revenue

2010 ACTIONS TO IMPROVE AIR QUALITY

<i>Commitment</i>	<i>Activity</i>	<i>Responsibility</i>	<i>Target/Outcome</i>	<i>Status Update</i>
			<p>(including excess) back to the Standard Offer Program (SOP).</p> <p>It is estimated that 48 tonnes of biomass could rise by 20 tonnes over the next 5 years. The use of wood waste as an alternative fuel to be used for power, heating and/or cooling will reduce greenhouse gas emissions and divert a portion of wood from final disposal.</p>	<p>from future heat sales.</p> <p>GHG reduction does not capture offset of emissions through connecting local commercial facilities to a district heating system or offset emissions through existing operations and collection.</p> <p>Plan B includes two options which are non-revenue generating (pelletization and biomass to ethanol).</p> <p>Several steps are required before the project can move ahead in 2010.</p>
Implement an Active Transportation Marketing Strategy	Develop a marketing campaign and materials to encourage people to use active modes of transportation for recreational, as well as commuting purposes.	Public Works (Transportation, Transportation Planning)	Increase the use of active modes of transportation to reduce auto-dependency and improve air quality.	<p>An active transportation marketing strategy was developed.</p> <p>Activities that were implemented under the strategy include the development of an active transportation website to encourage people to use active modes such as walking and cycling.</p>
Peel Active Transportation, Phase 2	Retain a consultant with expertise in active transportation to assist Regional staff in developing a long term active transportation plan	Public Works (Transportation, Transportation Planning)	Consider active transportation policies, infrastructure improvements and programs/services to encourage the use of active modes of transportation.	A consultant has been hired to develop the active transportation plan for Peel Region.

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
	for Peel Region.			
Implement the "Stepping it Up" Program - a School-Based Transportation Demand Management (TDM) Program	Work with Metrolinx and other partners to pilot a school-based TDM program in five schools in Peel Region.	Public Works (Transportation, Transportation Planning)	Encourage students and teachers to use sustainable and active modes of transportation to and from school (e.g. carpool, transit, walk and cycle) to improve air quality.	Five schools in Peel are participating in the pilot project for the 2009-10 school year.
Develop a Web-Based Active Transportation Map	Work collaboratively with area municipalities to develop a website that includes an interactive map that will allow cyclists and pedestrians to plan their trips.	Public Works (Transportation, Transportation Planning)	To increase active transportation rates by providing residents and visitors information and tools to plan their trip in Peel Region.	The web-based map was completed in May and can be found on Peel's active transportation website www.walkandrollpeel.ca . Eliminating single occupant vehicle trips through alternative modes of transportation will help to reduce greenhouse gas emissions and improve air quality.
Implement an Employee Individual Marketing (EIM) Pilot Project to reduce single occupant commuting trips	Retain a consultant with expertise in employer individual marketing to develop a social marketing strategy to engage employees in shifting to sustainable modes of transportation. This marketing program will be implemented at two private employer work sites in Region of Peel.	Public Works (Transportation, Transportation Planning)	Three employers to participate in an employer Individual Marketing program to encourage employees to switch to sustainable modes in 2009.	Three employers with over 6,000 employees are participating in the EIM pilot project.

2010 ACTIONS TO IMPROVE AIR QUALITY

Commitment	Activity	Responsibility	Target/Outcome	Status Update
School Bus Retrofit Pilot Project	<p>Environment Canada is conducting a small school bus retrofit pilot project in Peel Region and Halton Region.</p> <p>Eight to ten buses per Region will be retrofitted with Diesel Oxidation Catalysts (DOCs) and possibly Crankcase Ventilation units.</p> <p>In 2005, the Ontario Public Health Association estimated that DOCs installed on buses manufactured after 2004 would result in a reduction of particulate matter and hydrocarbon emissions by 25% and 85%, respectively.</p>	<p>Health Services (Environmental Health)</p>	<p>Reduce childhood exposure to diesel engine emissions on-board school buses.</p>	<p>Study is complete and the findings are to be shared with local partners.</p>
Energy Star Appliances at Ten Social Housing Providers	<p>Replace appliances with Energy Star appliances at ten Social Housing Providers under the Social Housing Renovation and Retrofit Program (SHRRP).</p>	<p>Human Services (Housing Policy and Programs)</p>	<p>Energy Star appliances contribute to reductions in energy and greenhouse gas emissions.</p>	<p>Ten Social Housing Providers replaced approximately 700 appliances with Energy Star refrigerators and stoves.</p>
Residential Toilet Replacement at Five Social Housing Providers	<p>Replace inefficient toilets at five Social Housing Providers under the Social Housing Renovation and Retrofit Program (SHRRP).</p>	<p>Human Services (Housing Policy and Programs)</p>	<p>The reduction in water consumption reduces associated energy requirements and GHG emissions related to water and wastewater treatment and distribution processes.</p>	<p>Five Social Housing Providers replaced 425 inefficient 12L toilets with efficient 4-6L toilets.</p>